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IN THE CLAIMS:

-eett. -

Please cancel claims 1-31, 45-58 and 61-63 without prejudice or disclaimer.

Please add claims 64-81 as follows:

—64. A method for producing a transgenic animal, comprising introducing a satellite artificial chromosome into an animal cell; and exposing the animal cell containing the artificial chromosome to conditions whereby a transgenic animal develops therefrom.—

oyum. — 65. The method of claim 64, wherein the animal cell is a fertilized

-66. The method of claim 43, wherein the animal cell is an embryonic

- is a megachromosome derived from a cell-line having all of the identifying characteristics of the cell line deposited under ECACC accession number 96040928 or 96040929.—
 - -68. A non-human transgenic animal produced by the method of claim
 64, wherein the animal comprises a satellite artificial chromesome.—
 - -69. The non-human transgenic animal of claim 68, wherein the animal is a mammal. -
 - -70. The non-human transgenic mammal of claim 69, wherein the mammal is a mouse. -
 - -71. The method of claim 43, wherein the animal cell is an embryonic stem cell or a fertilized ovum.-
 - -72. The method of claim 43, wherein:

the DNA encoding the selectable marker and the DNA encoding the gene product or products are separately introduced into the cell;

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the DNA encoding the gene product or products further comprises DNA encoding a second selectable marker, wherein the second selectable marker is different from the other selectable marker; and

the cell is grown under conditions that selectively permit the growth of a cell containing the DNA both after the DNA encoding the selectable marker is introduced into the cell and after the DNA encoding the gene product or products and a selectable marker is introduced into the cell.—

73. A method for producing a transgenic animal, comprising / introducing DNA encoding a gene product or products into a cell containing the minichromosome of cell line EC3/7C5;

growing the cell under selective conditions, whereby cells comprising minichromosomes comprising the DNA encoding the gene product(s) are produced;

isolating the minichromosome and introducing it into an animal cell;

exposing the animal cell containing the minichromosome to condition whereby a transgenic animal develops therefrom.

—74. A method for producing a transgenic animal, comprising introducing DNA encoding a gene product or products into a cell containing the the λ neo-chromosome of cell line KE1 2/4;

growing the cell under selective conditions, whereby cells comprising the A neo-chromosome comprising the DNA encoding the gene product(s) are produced;

is plating the λ neo-chromosome and introducing it into an animal cell; and exposing the animal cell containing the λ neo-chromosome to conditions whereby a transgenic animal develops therefrom.

—75. A non-human transgenic animal produced by the method of claim—43, wherein the animal comprises a minichromosome comprising a neocentromere.—

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- -76. The non-human transgenic animal of claim 75, wherein the animal is a mammal. —
- -77. The non-human transgenic mammal of claim 76, wherein the mammal is a mouse. -
- -78. A non-human transgenic animal produced by the method of claim 44, wherein the animal comprises a minichromosome that comprises a selectable marker and euchromatin.
- -79. A non-human transgenic animal comprising a satellite artificial chromosome.
- -80. The non-human transgenic animal of claim 79, wherein the animal is a mammal. -
- -81 The non-human transgenic mammal of claim 80, wherein the mammal is a mouse.-

Please amend claims 32, 35-44, 59 and 60 as follows:

32. (Amended) A method for producing a transgenic animal, comprising introducing a satellite artificial chromosome [[SATAC]] into an embryonic cell; and

exposing the cell containing the satellite artificial chromosome to conditions whereby a transgenic animal develops therefrom.

- 35. (Amended) The method of claim 32, wherein the [SATAC] <u>satellite</u> <u>artificial chromosome</u> comprises heterologous DNA that encodes a therapeutic product.
- the cystic fibrosis transmembrane regulatory protein [CFTR], an anti-HIV ribozyme, or a tumor suppressor gene.
 - 37 (Amended) The method of claim [32] <u>36</u>, wherein the anti-HIV ribezyme is an anti-gag ribozyme, and the tumor suppressor gene is p53.

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- 38. (Amended) The method of claim [32] <u>35</u>, wherein the product comprises an antigen that upon expression induces a immunoprotective response against a pathogen in the transgenic animal.
- 39. (Amended) The method of claim [32] 35, wherein the product comprises a plurality of antigens that upon expression induce an immunoprotective response against a plurality of pathogens.
- 40. (Amended) The method of claim 32, wherein the transgenic animal is a fish, insect, [reptile, amphibians, arachnid] amphibian, bird or mammal.
- 41. (Amended) The method of claim 32, wherein the [SATAC] satelliteartificial chromosome is introduced by cell fusion, microinjection, microcell fusion, electroporation, microprojectile bombardment or direct DNA transfer.
- 42. (Amended) A <u>non-human</u> transgenic animal produced by the method of claim 32; wherein the animal comprises cells containing a satellite artificial chromosome.
- (Amended) A method of producing a transgenic [plant or] animal, comprising:

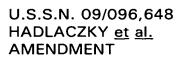
introducing [a] DNA [fragment] into a <u>first</u> cell[, wherein the DNA fragment comprises a selectable marker];

growing the cell under [selective] conditions that selectively permit the growth of a cell containing the DNA [to produce cells that have incorporated the DNA into their genomic DNA]; [and]

selecting a cell that comprises a minichromosome that is about 10 Mb to about 50 Mb that comprises a neo-centromere, the DNA [the selectable marker] and euchromatin;

[isolating] <u>transferring</u> the minichromosome [and introducing it] into [an or] <u>a second cell, wherein the second cell is an</u> animal cell; and

exposing the animal cell containing the minichromosome to conditions whereby a transgenic animal develops therefrom wherein,



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the DNA comprises DNA encoding a selectable marker and a gene product or products;

the DNA encoding the selectable marker and the DNA encoding the gene product or products are introduced into the cell simultaneously or separately; and

the transgenic animal comprises a minichromosome.

44. (Amended) [The] A method of {claim 43, wherein:] producing a transgenic animal, comprising:

introducing a DNA fragment into a cell, wherein the DNA fragment comprises a selectable marker;

growing the cell under selective conditions to produce cells that have incorporated the DNA fragment into their genomic DNA;

selecting a cell that comprises a minichromosome that is about 10 Mb to about 50 Mb that comprises the selectable marker and euchromatin;

[after selecting] introducing into the cell[,] DNA encoding a gene product or products [is introduced into the cell, and];

growing the cell [is grown] under selective conditions, whereby cells comprising minichromosomes comprising the DNA encoding the gene product(s) are produced; and

isolating the minichromosome and introducing it into an animal cell.

- 59. (Amended) The method of claim [43] <u>44</u>, wherein the minichromosome <u>comprising the selectable marker and euchromatin</u> is the minichromosome present in the cell line EC3/7C5.
- 60. (Amended) The method of claim [43] <u>44</u>, wherein the [chromosome] <u>minichromosome comprising the selectable marker and euchromatin</u> is the λ neo-chromosome in the cell line KE1 2/4.